

IN THE SPECIFICATION:

Please replace paragraphs [0002] through [0003] with the following:

[0002] Printers are well-known computer peripherals widely used in both home and business computing environments. Printer technology has made rapid advances over recent years. State of the art printers offer ever-increasing levels of speed, print quality, easily manipulated format options, and a wide variety of features, such as document collating, stapling, and various levels of print quality. Printers using inkjet or laser technology are capable of reproducing almost any image. As printer technology advances, the process of printing a document from a computer workstation involves ever increasing numbers of steps. Errors can occur at any of these steps. It has become common practice to keep an ~~Aerror log@~~ "error log" or other logs in the printer memory disc or other storage device, to track printing errors and technical problems and any other type problem. The repair of inoperable or damaged printers can be aided by examining the error log for patterns of errors occurring prior to breakage. Other events occurring on a printer can be tracked and their occurrence can be similarly recorded. Where this is done, the error log may be expanded into a printer ~~Aevent log.@~~ "event log."

[0003] As it is used herein, the term ~~Aprinter@~~ "printer" signifies any device capable of providing printer function alone or, alternatively, any device providing printer function in combination with one or more other document processing functions, such as, for example, copying, scanning, or facsimile capabilities.

Please replace paragraph [0005] with the following:

[0005] The event log is generally kept as a wraparound file that lists a fixed number of printer events and as additional events occur, the older events are removed from the memory. To reset or clear the log and start tracking anew, requires either the replacement of a printer component or a command from the ~~field~~ field support or maintenance personnel. The current design for an event log thus allows for efficient printer designing, debugging and similar analyses, and aids field support personnel in printer repair or reporting of printer consumable image supplies, modeling, etc. However, its single nature, limited entries and tracking of fixed events severely limit its usefulness to a printer end user. A system or method that is capable of keeping multiple event logs and allows users to select the printer events, would be a substantial improvement in the art.

Please replace paragraphs [0014] and [0015] with the following:

[0014] In a typical printing process over a network environment, a user at a computer workstation typically uses print driver software to load documents or images into a buffer (usually an area on a disk of a workstation), where a printer pulls them off the buffer at its own rate. Alternately, in many instances the data may go directly to the printer. The print driver functions to convert the text, graphics and print attributes specified by the ~~user~~ user's workstation into a set of codes that the printer can translate and/or read. The set of codes is typically a version of Printer Control Language (PCL), developed by Hewlett-Packard for its dot-matrix, inkjet, and LaserJet series printers. Once the text, graphics and print attributes have been converted to PDL, the PDL is transmitted by the workstation over the network where it is received by the printer as a ~~print job.~~ "print job." Examples of PDLs include ~~Hewlett-Packard's~~ Hewlett-Packard's HP-GL/2 language and ~~Adobe's~~ Adobe's PostScript.

[0015] As the printer receives the coded language from the print driver, it stores the information in high capacity memory storage (job retention), which typically comprises random-access memory (RAM) or a hard disk. A stored print job thus comprises one or more electronically stored files and the print attributes associated therewith. Before a typical print job (e.g., a PDL file) can be printed, however, its contents must be converted to a bit-mapped image format, also known as a raster image. The raster image is a bit-mapped representation of the document to be printed, with each bit in the bitmap representing the absence or presence of a dot (or pixel) on the printed page. A raster image processor (~~ARIP~~) ("RIP") in the printer typically translates PDL files to a raster image, also called a ~~ARIP-ed~~ "RIP'ed" version of the file. Thus, the print files include data representing graphical images and the ~~RIP-ed~~ RIP'ed version is generated from the print file. Typically, print jobs are ~~RIP-ed~~ RIP'ed before storage in job retention, making them ~~print ready files.~~ "print ready files." In some cases, print jobs are received by the printer in the form of raster image data. In that case, a processor in the printer may engage in pixel image manipulation when storing the print job. The printer then uses the data in the print ready file to control the mechanical printing components and the printing steps, such as paper feeding, controlling the inkjets of an inkjet printer or the laser scanning assembly and revolving drum and other associated mechanism of a laser printer. The occurrence of each step described

above is an event that can be tracked. Errors can be introduced into the process at any of the above steps. The occurrence of an error is also an event that can be tracked.

Please replace paragraphs [0018] through [0020] with the following:

[0018] Still referring to drawing FIG. 1, the printer 10 includes ~~microprocessor 2~~ microprocessor 12, which is preferably part of the existing circuitry associated with a conventional printer. As such, microprocessor 12 is preferably configured to perform some or all of the printer specific functions of printer 10, including control of printer specific hardware and software. Where printer 10 includes optional features, such as a web server, microprocessor 20 may be configured to control and execute those optional features.

[0019] Microprocessor 12 is provided with memory 18 in the form of RAM 20 and/or hard disk memory 22, which may be associated with the print cache of printer 10, or which may be provided separately from the print cache. As used herein, printer memory designated for temporarily or permanently storing one or more print jobs on hard disk memory 22 or other data storage device in printer 10 is referred to as ~~A job retention@25" job retention" 25~~. In preferred embodiments, a percentage of memory 18 in printer 10 is dedicated to standard event log 24 (~~ASEL 24@~~) ("SEL 24"). In some preferred embodiments, in addition to the SEL 24, a percentage of memory 18 is dedicated to a customizable event log 26 (~~ACEL 26@~~) ("CEL 26"). Typically, printer 10 will be equipped with 64 megabytes of RAM 20, although less RAM may be used in certain configurations.

[0020] Preferably, microprocessor 12 of printer 10 is configured to translate coded language received from printer drivers of networked workstations into a bit-mapped image format (raster image format), and to store the translated print files in high capacity memory storage (i.e., job retention 25). Thus, the resulting ~~ARIP-ed@~~ "RIP'ed" print jobs, representing graphical images of text or drawings along with associated print attributes, are stored in job retention 25 as ~~A print ready files.@~~ "print ready files."

Please replace paragraphs [0029] and [0030] with the following:

[0029] Referring now to drawing FIG. 2, printer 10 is shown as connected to a local computer network 40 through network interface 14 and connection 16. A number of computer workstations 42 are also connected to the network 40. Printer 10 is able to accept

print jobs from each workstation 42 through network operative connections as known to those skilled in the art. Local network 40 architecture also includes a gateway 44, which will typically comprise a software and/or hardware firewall. Gateway 44 functions to block various external data transmissions from being sent to locations residing inside local network 40 architecture. In this regard, gateway 44 may be restrictively configured to allow remotely situated ~~users~~ users 50 to access web pages within local network 40 architecture (e.g., via HTTP protocols) and to block all other access. Gateway 44 also provides a port for outgoing Internet traffic. Gateway 44 is further preferably configured to internally route IP-Packets sent from workstations 42 to other web-based devices (e.g., printer 10) also residing within local network 40 architecture, and vice versa.

[0030] It is preferred that both the SEL 24 and CEL 26 be accessible for examination by a printer user, such as a network administrator. This may be accomplished in a number of ways. One such way is to allow the contents of either event log to be displayed on the optional attached display 32 (not shown), or on a display controlled by a connected workstation 42. The contents of a log may be accessed by a user in a number of ways. For example, a user may access the control panel for the printer, which is displayed on the display 32, or a workstation 42 display. Within the displayed control panel are commands that may be executed to display the contents of the event logs. The commands are preferably executed by the user ~~A clicking@~~ "clicking" thereon to select them. Execution of a command to display an event log, such as SEL 24, causes the contents of that log to be displayed, or in the case of VCEL 27, to be generated and displayed.

Please replace paragraph [0032] with the following:

[0032] Alternatively, the attributes of the CEL 26 may be altered or the contents of either event log may be displayed by entering commands into the utility managing the printer over the network 40. A number of utilities are currently available, allowing one or more printers 10 to be connected to and managed over a network 40. One such utility is WebJetAdmin, which is a product of Hewlett Packard. One advantage of WebJetAdmin is that it allows the management to be controlled using a web browser program. It will be appreciated that any such utility known now, or in the future, to those skilled in the art may be used. When a network administrator runs WebJetAdmin or other utility to control the printer 10 on a network 40, a number of commands related to the printers may be entered and

executed. These commands may alter the configuration of the CEL 26, or cause the contents of either event log, CEL 26 or SEL 24, to be displayed. For example, a web browser program is used to display a web page-like interface generated by Web Jet Admin. It will be appreciated that the term ~~A web page like~~ "web page-like," as used ~~herein~~ herein, refers to any display that may be generated and displayed in a web browser program, including web pages and other data files. There are a number of such displays that may be generated and execution of commands in each display can lead to the display of further interfaces. Using the commands from a series of displays, a single web page-like interface is displayed for a printer 10 attached to the network 40. Within this interface are a number of commands that may be selected and printer configurations that may be altered. Among these commands are commands to display the contents of the printer event logs. Execution of the appropriate command, preferably an HTML button, displays the contents of either the SEL 24 or the CEL 26. Other commands accessible through the utility allow the configuration of the CEL 26 to be altered. It will be appreciated that the above examples are illustrative only and that any suitable program, interface or method for displaying the contents of SEL 24 or CEL 26 may be used and is within the scope of the present invention.

Please replace paragraph [0035] with the following:

[0035] The event message is then conveyed to and written in the SEL 24, as shown in box V1. Simultaneously, the event message is conveyed to the CEL 26, as shown in box V2. If the CEL 26 has been configured to track that event, i.e. it is a selected event, the event message is then written into the CEL 26, as shown in box V3. Once the event message is written into an event log, it is maintained there in accordance with that ~~log~~ log's configuration. The contents of the SEL 24 and CEL 26 may be examined as described above.